

## UV Light Source General Information & Frequently Asked Questions

### Delivery Times

Usually, you will have a unit sitting on your front door step within two weeks anywhere in the contiguous United States for the 11X14, 14X16, and 18X20 sizes. Shipments overseas take a few days more, due to special packaging requirements. Light sources are shipped UPS Ground. The shipping boxes are oversized, and it is not recommended to ship the units by air. The oversized boxes do not fit the automated handling equipment used in air shipments, and consequently the units will get damaged in handling.

### Unit Weight

11 X 14	25 pounds
14 X 16	30 pounds
18 X 20	55 pounds
20 X 24	85 pounds

The UV light sources are design to set on table tops, and are intended to be kept in one location. *If you have need to move your light source from location to location, such a teaching courses, let us know and we will build you a unit with a special high strength glue.* Also, a wooden crate can build to aid in transporting and protecting your UV light source, if you have the need.

### Wooden Shipping Crate is Available to Protect Your UV Light Source

11 X 14	8 - 1" diameter tubes	120 VAC - 2.2 Amps - 265 Watts
<b>11 X 14 HO</b>	8 - 1" diameter tubes	120 VAC - 3.3 Amps - 400 Watts
14 X 16	12 - 1" diameter tubes	120 VAC - 3.3 Amps - 400 Watts
<b>14 X 16 HO</b>	12 - 1" diameter tubes	120 VAC - 4.5 Amps - 540 Watts
18 X 20	12 - 1½" diameter tubes	120 VAC - 3.3 Amps - 400 Watts
<b>18 X 20 HO</b>	12 - 1½" diameter tubes	120 VAC - 8.0 Amps - 960 Watts
20 X 24	16 - 1" diameter tubes	120 VAC - 6.4 Amps - 770 Watts
<b>20 X 24 HO</b>	16 - 1½" diameter tubes	120 VAC - 12 Amps - 1440 Watts
40 X 30	22 - 1" diameter tubes	120 VAC - 8.8 Amps - 1100 Watt
<b>40 X 30 HO</b>	22 - 1½" diameter tubes	120 VAC - 16.5 Amps - 1980 Watts

Note: GRALAB model 300 timer's are rated at 600 watts at 120 VAC.

If you have a digital timer that will not handle the above wattage for the light source you are interested in, a latching relay can be added to the light source for an additional charge of approximately \$50.00

### Use of Print Frame

Units are designed to fit most standard print frames. The door opening for the print frame is 3" high. The distance from the bottom of the tubes to the negative is optimum so there is no tube shadowing effects.

11 X14	22" long by 14½" deep
14 X 16	22" long by 19½" deep
18 X 20	28" long by 23½" deep
20 X 24	40" long by 32½" deep
20 X 24 <b>HO</b>	51" long by 33" deep

Special UV box sizes can be built to accommodate any size print or vacuum frame. Usually two week delivery. Sometimes there is an additional charge of \$25.00 if its more than 2-3" larger.

### Exposure Times

Exposure times for the 11X14, 14X16, and 20X24 are approximately 3 minutes for a medium density negative. The 18X20 uses larger diameter tubes, which are less energy efficient, and takes about 4 minutes and 20 seconds for a medium density negative. The one (1) inch diameter tubes put out more UV light than the 1½" diameter tubes. Also, the one inch tubes can be spaced closer together, which will give more UV light per square foot of area.

### High Output (HO) Exposure times versus Standard Black Light

Mike K. writes when he compares his 20 watt Black light UV Light Source to his new HO 60 Watt unit:

"I pulled out one of my most popular images. It is a 10x12 enlarged negative with a density range of 1.92. jkiu4jOn the old 20 Watt UV unit w/ 100% palladium I had to print this negative at 360 seconds (6 minutes). My comparison shows that the new exposure unit with 60w bulbs prints the same negative in 105 seconds v. 360 seconds with the old unit.

One pyro/pmk negative that previously took 10-1/2 minutes printed in 215 seconds (3min 35 seconds).

I no longer have time to coat between sheets or read a book. ;-)"  
Mike K.-

## **Large Cooling Fan for More Consistent Lamp Output.**

The light sources are designed with an oversized fan and unique cross-flow air system that incorporates a door. Open this door and place your print frame under the UV light tubes. Keep the door closed during exposures. Air flow is important because the cooling it provides helps keep the light output at a constant intensity. Constant light output gives much more repeatable exposure times and results. Fluorescent tube light output drops significantly as the tube's temperature increases; this is why the units have been designed with an oversize fan/fans and the cross-flow air system which incorporates the door.

## **UV Tube Life**

The black light (UV) tubes are rated at 7,500 hours life, while most light bulbs are rated at only 1,000 hours. You may wish to replace your black light tubes after 2000-3000 hours of use, because there will be about 12% reduction in intensity at these times. One year of eight hour work days equals 2080 hours; so estimating your total "on" time for an average day and the number of days per year you print will give you a bench mark for when you need to change your tubes. Two thousand hours would be about 5-10 years use for most photographers who use their light source once or twice a week. Most lighting supply houses have them or can order them.

They are designated as: F15T8/BL preheat (11X14) or F20T12/BL preheat (18X20 for the standard units).

**Replacement bulbs are available from from [American Light](#), a lighting supply house, by calling Katie Metcalf at 800-256-5154.**

## **Vacuum Frames Available**

Stand alone Vacuum frames are available in just about any size you want. For light sources with a built-in vacuum frame, the vacuum frame pulls out as a drawer mounted below the light source. Due to the weight of the drawer, the UV Light Source must be mounted to solid table or counter top with "L" brackets that are provided. The front edge of the unit must hang over the edge of the table or counter by 2" to provide clearance for the vacuum pump hose to hang down.

The paper and negative are loaded onto the vacuum mat in the open drawer position, the glass frame is closed and vacuum pump is started, then the drawer is pushed in under the light bank for the timed exposure. These unit's typical delivery is 6 weeks. Units are usually shipped North American Van Lines High Value Product Service on a pallet, and special handling maybe required for stairs if no freight elevator is available.

## **Operating Instructions**

Your light source is warranted for one year and is designed to give you many years of trouble free service.

Before plugging your new light source to a power outlet: *Carefully remove any packing between each black light tube and carefully remove the masking tape from each of the tubes. Visually check tubes to make sure they are seated in sockets, with each tube-end pins, horizontal. The tubes may have shifted in shipping so to make sure they are seated properly, twist the tubes back and forth in the sockets a couple of times, about 90 degrees rotation, and you can feel the tubes seating in the notches of the sockets. If the unit sits for a while without use, or if the darkroom is unusually damp, sometimes some of tubes will not start. Just turn the unit over and twist the tubes back and forth in the sockets several times, about 90 degrees rotation, and this is usually enough to clean the corroded contacts for the lamps to start.*

The light sources are designed with an oversized fan and unique cross-flow air system that incorporates a door. Open this door and place your print frame under the UV light tubes. The distance from your print to the UV tubes has been designed to provide maximum uniform light intensity for optimum exposure levels, and maximum corner to corner consistency. *Place your light source on a white surface, such as a piece of mat or white foam core board, to benefit from the reflected light.* This helps insure your print is exposed with ample UVA and UVB wavelengths of ultraviolet light necessary for the platinum process. Before your first exposure, it is best to stabilize the temperature by operating the unit 3-5 minutes. Repeat the warm-up if the unit is off more than 2 hours.

Place light sources in a location with at least 4" clearance on each end (fan and vents end) to provide ample air flow. Keep the door closed during exposures. Air flow is important because the cooling it provides helps keep the light output at a constant intensity. Constant light output will give you much more repeatable exposures times and results. Fluorescent tube light output drops significantly as the tube temperature's increases; this is why the units have been designed with an oversize fan and the cross-flow air system which incorporates the door.

Plug the unit into an electrical outlet and check the GFIC (Ground Fault Interrupt Circuit outlet) before turning on the switch. Push in the red or reset button until you feel a click (if it has been tripped and is sticking out slightly). Test the GFIC weekly by pushing the black button test button and resetting with the red or reset button. If you can reset with the red or reset button, then the GFIC will protect you from electrical shock when using your UV light source.

When the fan filter becomes laden with a white-gray powder, unplug your unit from the electrical power source or your timer, and gently pry off the outer plastic cover from the edges. The cover holds the foam filter. Wash foam filter in warm soapy water and rinse. Wipe the filter cover and housing with a damp cloth. Thoroughly dry the foam filter before re-installing the filter and cover.

Place foam filter in cover and push onto fan housing. Plug unit into electrical outlet and test GFCI and reset with red or reset.

**Danger:** Do not remove top cover while the unit is connected to a power source like a timer or electrical outlet. Keep hands and fingers away from the ends of the fluorescent tubes, tube sockets, and the fan(s).

**WARNING - DO NOT** USE or place your UV light source near pets, fish, infants or small children. Do not allow children to look at the lights. Protect your eyes (sun glass or lenses with UV blockers, both A & B) and skin from exposure. The light sources produce **SEVERAL TIMES** the amount of Ultraviolet Radiation we received **ON EARTH** from the **SUN**. Think about it, it hurts to look at the sun and most people cannot look directly at it. Look at the sun or at arc welding, without protection, and eventually, it is highly likely that you will go blind. The reason that we see few welders past the age of 50, even when they used the proper shielding and eye protection for UV, is that their eyesight is no longer good enough to weld after looking at the light or flame (which gives off UV) for 25 or so years. The same applies to your UV light source. Looking at the UV light source is equivalent to standing beside someone arc welding, and you watching the arc without any eye protection.

**PROTECT YOUR EYES FROM UV EXPOSURE DURING THE USE OF YOUR LIGHT SOURCE.**

## **Caution: High Intensity UV Radiation**

1. This Light Source emits ultraviolet (UV) Radiation during operation. It is in Risk Group 2 per ANSI-IESNA RP-27.3-96.

\* Exposure at less than 0.75 meters (30 inches) should be limited:

\* Exposure at 0.55 meters (22 inches) should NOT exceed 4 hours in any 8 hour time interval.

\* See ANSI-IESNA RP-27.1-96.

2. Certain Medications and Chemicals can increase an individual's sensitivity to UV Radiation.

Consult your physician for specific information.

3. Protective eye wear and clothing should be worn at all times involving long-term exposure in close proximity to the lamps.

4. These Lamps and Light Source are not intended and should not be used for diagnostic, therapeutic, or cosmetic purposes.

The following companies have safety glass that block 100% of UV light as defined by ANSI standard, ANSI Z87.1-1989.

Lab Safety Supply

1-800-356-0783

Fisher

1-800-766-7000

Cole-Palmer

1-800-323-4340